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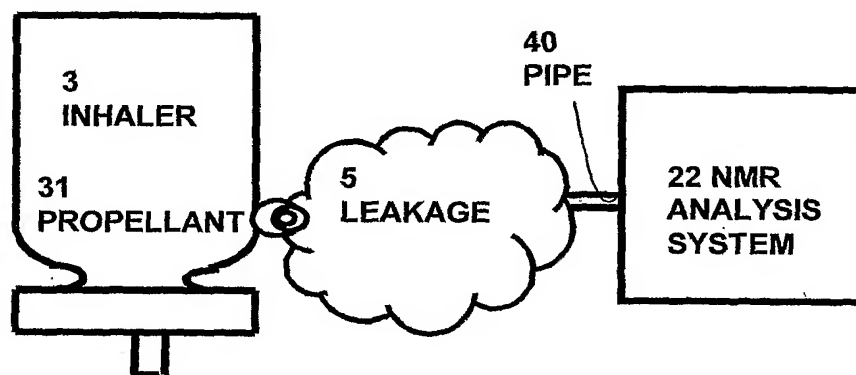
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(54) Title: NMR LEAK TEST



(57) Abstract: Testing integrity of a barrier or a container uses NMR analysis. This is non-destructive and based on physical principles rather than chemical conversion or by signal suppression. It can use many alternative material forms, including solids, liquids, vapours and gases as appropriate to the application. Direct transfer into and accumulation within a NMR analysis system may be used by the NMR analysis system to determine from the accumulating material if there has been any leakage and whether this exceeds a pre-determined level without any added helium tracer. <sup>19</sup>F NMR can be applied to testing for leakage of fluids with high % fluorine content, such as propellant from inhalers and also insulating gas from high voltage electrical systems, that are difficult, hazardous and or expensive to reliably detect directly by other methods and where the sensitive integrity validation of fluid-filled container production is required. NMR validation marking is also proposed.

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